

Patent Abstracts of Japan

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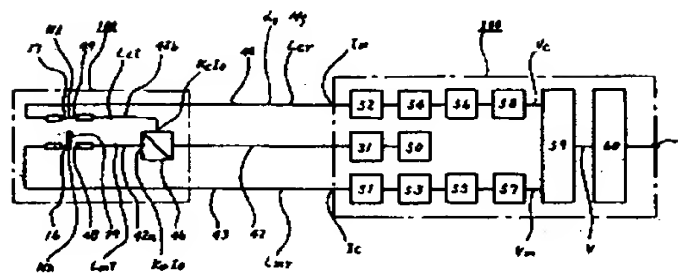
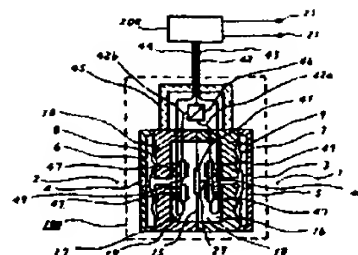
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TITLE : DIFFERENTIAL PRESSURE
 TRANSDUCER



ABSTRACT : PURPOSE: To obtain both electromagnetic induction resistance and explosion resistance, by providing light paths constituted by light projecting and light receiving optical fibers in a high pressure side pressure receiving chamber and a low pressure side pressure receiving chamber, respectively, and providing a screening plate, which is inputted and outputted in response to the displacement of a detecting film in one light path.

CONSTITUTION: A center disk 41 is fixed to a detecting film 15. A screening plate 29 is fixed to the disk 41. A high pressure side sealed liquid 16 and a low pressure side sealed liquid 17 are both silicone oil. A light terminal box 45 encloses a light splitter 46 and is fixed to casing 9 and 10. The light beam from a light projecting optical fiber 42 is split into fibers 42a and 42b by the splitter 46. One end of the fiber 42a is guided to a high pressure side pressure receiving chamber 18. A light path 48 is arranged so that the screening plate 29 is inputted to and outputted from the light path and the amount of the light received by a light receiving fiber 43 is changed when the detecting film 15 is displaced. One end of the fiber 42b is guided to a low pressure side pressure receiving chamber 19. A light path 49 is formed between the fiber 42b and a light receiving fiber 44. The amounts of light from the light paths 48 and 49 are transduced into a differential pressure signal by a transmitting part 200. Thus electromagnetic induction resistance and explosion resistance can be imparted.

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